

STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0124290
to discharge to waters of the State of Louisiana.
AI No.: 159621 / Activity No.: PER20080001

THE APPLICANT IS: Jefferson Davis Parish Police Jury
P.O. Box 1409
Jennings, LA 70546

Facility

Jefferson Davis Parish Water District No. 4
4029 Bryan Road, Jennings
Jefferson Davis Parish

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Bonnie Wascom

DATE PREPARED: January 18, 2009

1. PERMIT STATUS

- A. LPDES permit – NA
LPDES permit effective date: NA
LPDES permit expiration date: NA
- B. LWDPS permit – NA
LWDPS permit effective date: NA
LWDPS permit expiration date: NA
- C. Date Application Received: July 28, 2008

2. FACILITY INFORMATION

A. FACILITY TYPE/ACTIVITY – potable water treatment plant

Jefferson Davis Parish Water District No. 4 is an existing water treatment facility in Jennings, Jefferson Davis Parish. Source water is from ground water wells. First, the raw water is injected with chlorine. Then the water is sent through the pressure filters used for the removal of iron and manganese. Next, the water passes through the zeolite softeners. After being treated the water is stored in ground storage tanks.

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The filters are backwashed with treated water twice a week and the softeners are regenerated with a brine solution. All backwash and regeneration wastewater flows into a dilution basin prior to being discharged to the Bryan Road roadside ditch. The sanitary discharge from the facility is treated by a mechanical treatment plant before is discharged to the Bryan Road roadside ditch

B. FEE RATE

1. Fee Rating Facility Type: minor
2. Complexity Type: I
3. Wastewater Type: III
4. SIC code: 4941

C. LOCATION - 4029 Bryan Road, Jennings
Jefferson Davis Parish
Latitude +30° 19' 14", Longitude -92° 40' 17"

3. OUTFALL INFORMATION

Outfall 001

Discharge Type: Filter backwash and softener regeneration wastewater

Treatment: Dilution basin

Location: at the point of discharge from the dilution basin prior to mixing with other waters

Flow: 38,300 GPD

Discharge Route: by pipe to Bryan Road roadside ditch, thence to the LA Highway 26 roadside ditch, thence to an unnamed drainage ditch, thence to West Bayou Grand Marais

Outfall 002

Discharge Type: Treated sanitary wastewater

Treatment: Mechanical treatment plant

Location: at the point of discharge from the mechanical treatment plant

Flow: 40 GPD

Discharge Route: by pipe to Bryan Road roadside ditch, thence to the LA Highway 26 roadside ditch, thence to an unnamed drainage ditch, thence to West Bayou Grand Marais

NOTE: This facility does not require storm water permit coverage because it does not discharge regulated storm water. The facility's SIC code, 4941, is not listed in the storm water regulations at LAC 33:IX.2341.B.14.a-k and therefore the storm water runoff from the site is not classified as regulated industrial storm water.

4. RECEIVING WATERS

STREAM – Outfall 001 & Outfall 002– by pipe to Bryan Road roadside ditch, thence to the LA Highway 26 roadside ditch, thence to an unnamed drainage ditch, thence to West Bayou Grand Marais

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HARMONIC MEAN – 1 cfs (see attached August 14, 2008, Memorandum from Todd Franklin to Bonnie Wascom)

BASIN AND SEGMENT – Mermentau River – Subsegment 050603

IN STREAM CHLORIDE STANDARD for Bayou Chene – from headwaters to Lacassine Bayou; includes Grand Marais – 90 mg/l

DESIGNATED USES -

- a. primary contact recreation
- b. secondary contact recreation
- c. propagation of fish and wildlife
- d. agriculture

5. EXISTING EFFLUENT LIMITS

NA – not previously permitted

6. PROPOSED EFFLUENT LIMITS

BASIS – See rationale below.

7. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

There are no open, appealed, or pending OES enforcement actions as of January 18, 2009. There is no EPA enforcement history on file as of January 18, 2009.

B. DMR Review/Excursions

NA – not previously permitted

8. ENDANGERED SPECIES

The receiving waterbodies and proposed discharge are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

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9. 303 (d) LISTED WATERBODIES

Subsegment 050603, Bayou Chene – from headwaters to Lacassine Bayou; includes Bayou Grand Marais, is listed on LDEQ's Final 2006 303(d) list as impaired for Mercury. A TMDL was due to be established by 1999. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a future TMDL. Until completion of TMDLs for the Mermentau River Basin, those suspected causes for impairment which are not directly attributed to the potable water treatment point source category have been eliminated in the formulation of effluent limitations and other requirements of this permit. Additionally, suspected causes of impairment which could be attributed to pollutants which were not determined to be discharged at a level which would cause, have the reasonable potential to cause or contribute to an excursion above any present state water quality standard were also eliminated. This facility is not expected to cause or contribute to the mercury impairment.

Subsegment 050603 was previously listed as impaired for Organic enrichment/low DO and Fipronil on past 303(d) lists, for which the below TMDL's have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDL's and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for subsegment 050603:

Fipronil

There are no known point sources for fipronil in the Mermentau River Basin. Effluent from several hundred other point source dischargers in the Mermentau River Basin is not expected to contain fipronil because its use is limited to rice farming. Therefore, concentrations of Fipronil in their effluents are not expected and would be considered an enforcement issue and dealt with accordingly. This facility will not be a source of fipronil; therefore its operation should not have any impact on the fipronil concentration in the water body or on future development of TMDLs.

Organic Enrichment/Low DO

As per the TMDL, point source loads are so small as to be insignificant, and because effective policies are in place to limit nutrient discharges, no specific reductions from point sources are required. The organic enrichment/low DO impairment shall be addressed through the BOD parameter for Outfall 002.

10. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana

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Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

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Rationale for Jefferson Davis Parish Water District No. 4

1. **Outfall 001 – Filter backwash and softener regeneration wastewater**

<u>Pollutant</u>	<u>Limitation*</u> Mo. Avg: Daily Max	<u>Reference**</u>
Flow (GPD)	Report: Report	LAC 33:IX.2361.I.1.b
Chlorides	3103: 7366 mg/l	Water Quality
Clarifying Agents Used (GPD)	Report: Report	Similar discharges (BPJ)
TSS	30: 45 mg/l	Similar discharges (BPJ)
Total Recoverable Iron (mg/l)	---: Report	Similar discharges (BPJ)
pH	6.0 - 9.0 s.u.	Similar discharges (BPJ)

Treatment: Dilution basin

***Monitoring Frequency:** Once per month for Flow, Chlorides, TSS and pH and once per quarter for Total Recoverable Iron at the point of discharge from the dilution basin prior to mixing with other waters. Clarifying Agents: document in an inventory record once per month the quantity and type of any Clarifying Agent used during each calendar month.

****Limits Justification:** For all parameters except Chlorides, limits and monitoring frequencies are based on the general permit for potable water treatment plants (LAG380000). A water quality screen (attached) was performed to calculate the water quality based limit for chlorides.

The receiving waterway (West Bayou Grand Marais) is not listed by name in the Numerical Criteria and Designated Use Table (LAC 33:IX.1123 Table 3); therefore, the allowable in-stream chloride standard of 250 mg/l will be used (LAC 33:IX.1113.C.2). Agriculture is one of the defined uses for the named waterbody. Based on known tolerances for agricultural usages, specifically rice which can tolerate up to 600 mg/l, the level of 250 mg/l will be protective of all uses of the waterway.

Receiving stream flow was established for West Bayou Grand Marais by the engineering support group at 0 cfs 7Q10 and 1 cfs harmonic mean. (See attached August 14, 2008, Memorandum from Todd Franklin to Bonnie Wascom)

The harmonic mean, rather than the critical flow, was used for calculating the permit limitations for the chloride discharges in accordance with LAC 33:IX.1115.C.8, which states "For chlorides, sulfates and total dissolved solids, criteria are to be met below the point of discharge after complete mixing. Because criteria are developed over a long-term period, harmonic mean flow will be applied for mixing."

Page 8 of the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standard provides, under Harmonic Mean Flow, that a harmonic mean value of 1 cfs shall be the default harmonic mean flow when harmonic mean value is ≤ 1 cfs, for streams not designated intermittent at LAC 33:IX.1123, Table 3. Therefore, a harmonic mean value of 1 cfs was used in the calculations to determine the appropriate water quality based limit for chlorides.

The calculation employing the total flow of 0.0383 MGD yielded values of 3103 mg/l (Monthly Average) and 7366 mg/l (Daily Maximum). It was determined that a water quality based permit limitation is necessary to maintain the in-stream standard of 250 mg/l which was established to protect the uses of the water body as primary and secondary contact recreation, fish and wildlife propagation, and agriculture.

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2. **Outfall 002 – Treated sanitary wastewater**

<u>Pollutant</u>	<u>Limitation*</u> Daily Max: Weekly Avg	<u>Reference**</u>
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
TSS (mg/l)	---: 45	Similar discharges (BPJ)
Fecal Coliform (col. /100 ml)	400: ---	Similar discharges (BPJ)
BOD ₅ (mg/l)	---: 45	Similar discharges (BPJ)
pH (s.u.)	6.0 - 9.0	Similar discharges (BPJ)

Treatment: Mechanical treatment plant

***Monitoring Frequency:** Once per month for all parameters at the point of discharge from the mechanical treatment plant prior to mixing with other waters.

****Limits Justification:** For all parameters, limits and monitoring frequencies are based on the Class I Sanitary General Permit (LAG530000).

Note: The Potable Water Treatment Plant General Permit is not appropriate for this facility because the facility treats the raw water by means of a zeolite ion exchange in the softening process. The zeolite is recharged using a sodium chloride solution which produces a high chloride concentration in the wastewater. Therefore a facility specific permit is required to determine the appropriate water quality based permit limit for discharges of chlorides.

BPJ Best Professional Judgment
 GPD Gallons per Day
 s.u. Standard Units

NOTE:

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

Storm Water Pollution Prevention Plan (SWP3) Requirement

Discharges from this facility are not classified as industrial storm water per LAC 33:IX.2341.B.14. Therefore, the Storm Water Pollution Prevention Plan (SWP3) requirement is not included in this permit.

However, per LAC 33:IX.903.B, all above ground storage tanks with a capacity of 660 gallons for an individual container or 1320 for multiple containers, must have secondary containment and a Spill Prevention and Control Plan.

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Monitoring Frequency

Please be aware that the Department has the authority to reduce monitoring frequencies when a permittee demonstrates two or more consecutive years of permit compliance. Monitoring frequencies established in LPDES permits are based on a number of factors, including but not limited to, the size of the discharge, the type of wastewater being discharged, the specific operations at the facility, past compliance history, similar facilities and best professional judgment of the reviewer. We encourage and invite each permittee to institute positive measures to ensure continued compliance with the LPDES permit, thereby qualifying for reduced monitoring frequencies upon permit reissuance. If the Department can be of any assistance in this area, please do not hesitate to contact us. As a reminder, the Department will also consider an increase in monitoring frequency upon permit reissuance when the permittee demonstrates continued non-compliance.